CheMatech SAS
2 rue Pauline Kergomard
21000 Dijon - FRANCE
tel : +33 (0)3 80 44 19 00
fax : +33 (0)3 80 44 19 01
email : info@chematech-mdt.com
www.chematech-mdt.com

CERTIFICATE OF ANALYSIS

Commercial name: (R)-NODA-GA(tBu)$_3$
Chemical name: (R)-4-(4,7-bis(2-tert-butoxy-2-oxoethyl)-1,4,7-triazonan-1-yl)-5-tert-butoxy-5-oxopentanoic acid
Mw: 543,69 g.mol^{-1}
Chemical Formula: $C_{27}H_{49}N_3O_8$
Sample from batch # 083 G 040920 F1
Storage temperature: - 20°C ± 5°C

	SPECIFICATIONS	RESULTS
Appearance		
Appearance - *Visual inspection*	White to yellow powder	White powder
Identification		
Identification - *^{1}H NMR*	Conform to reference spectrum	Conform to reference spectrum
Identification - *MS*	544,35 ± 1 (m + 1) g/mol	543,75 g/mol
Analysis		
Chemical purity - *HPLC - UV*	≥ 98 % Each impurity < 0,3%	99,6% No impurity ≥ 0,3%
Enantiomeric purity - *HPLC - UV*	≥ 99%	99,2%
Pd content – *ICP-MS*	< 5 ppm	< 1 ppm
Metals content (Cu, Fe, Zn) – *ICP-MS*	Sum of metals < 30 ppm	Sum of metals < 8 ppm
Residual solvents – *GC-MS* - Toluene - Ethanol - Methanol - Dichloromethane - Acetic acid	Toluene < 100 ppm Ethanol < 500 ppm Methanol < 500 ppm Dichloromethane < 60 ppm Acetic acid < 300 ppm	Toluene: 8,6 ppm Ethanol: 231,6 ppm Methanol < 10 ppm Dichloromethane: 19,7 ppm Acetic acid: 60,2 ppm

CheMatech SAS
2 rue Pauline Kergomard
21000 Dijon - FRANCE
tel : +33 (0)3 80 44 19 00
fax : +33 (0)3 80 44 19 01
email : info@chematech-mdt.com
www.chematech-mdt.com

CERTIFICATE OF ANALYSIS

Commercial name: (R)-NODA-GA(tBu)$_3$
Chemical name: (R)-4-(4,7-bis(2-tert-butoxy-2-oxoethyl)-1,4,7-triazonan-1-yl)-5-tert-butoxy-5-oxopentanoic acid
Mw: 543,69 g.mol^{-1}
Chemical Formula: $C_{27}H_{49}N_3O_8$
Sample from batch # 083 G 040920 F1
Storage temperature: - 20°C ± 5°C

	SPECIFICATIONS	RESULTS
Analysis		
Water content – *KF*	≤ 3%	0,77%
Elemental analysis - *OEA*	Δ%C, Δ%N < 0,4	Conform with $C_{27}H_{49}N_3O_8$ + 0,3 H_2O Fw = 549,11 g.mol^{-1}

Manufacturing date: 23/09/2020
Retest date: 23/09/2022

Head of Quality Control / Quality Assurance	Stamp
M. BIANCO, le 24/03/2022	CheMatech macrocycle design technologies 2, rue Pauline Kergomard - 21000 Dijon - France SAS au capital de 50 000 Euros RCS DIJON 485 207 450 SIRET 485 207 450 00043 - APE 7112 B

Version	Date	Modification
1	20/10/2020	Creation of the CoA
2	24/03/2022	Addition of the retest date according to stability studies